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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,566	01/21/2004	Yuan Kong	MS#304588.01 (5084)	6818
38779	7590	08/08/2006	EXAMINER	
SENNIGER POWERS (MSFT)			LIANG, REGINA	
ONE METROPOLITAN SQUARE, 16TH FLOOR			ART UNIT	
ST. LOUIS, MO 63102			PAPER NUMBER	

2629

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/761,566	Applicant(s) KONG, YUAN	
	Examiner Regina Liang	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/21/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claims 1-40 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-40 of copending Application No. 10/761,855. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

3. Claims 1-40 of this application conflict with claims 1-40 of Application No. 10/761,855. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 is indefinite since it depends from itself.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-11, 13-17, 24-32, 38-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Liess et al (US 6,707,027 hereinafter Liess).

As to claim 1, Fig. 1a of Liess discloses a data input device (mouse) for use with a tracking surface, the tracking surface having light-scattering properties with respect to the device. Fig. 2 of Liess discloses the device comprising a single laser (3) having a cavity (20) from which a light beam (25) is projected, the laser being configured to project the light beam onto the tracking surface (15), at least a portion of the light beam striking the tracking surface reflecting back into the cavity of the laser (reflected light beam 26) and thereby altering at least one characteristic of the projected light beam (col. 8, lines 34-55); a detector (4) associated with the laser (3) for detecting the altered characteristic of the light beam projected by the laser (col. 8, lines 1-9), and a controller responsive to the detector for determining the relative distance (Z

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direction) between the device and the tracking surface as a function of the altered characteristic of the projected light beam detected by the detector (col. 12, lines 4-49).

As to claims 2-8, Liess teaches the altered characteristic is a frequency shift in the projected light beam of the laser and a Doppler waveform of the projected light beam having the altered characteristic as claimed (see col. 8, line 34 to col. 9, line 17 for example).

As to claims 9-11, Fig. 1a, 1b of Liess teaches the laser and the detector (3 and 4) are mounted in a housing and are adjacent each other on one of a micro-chip, a PC board and a leadframe (col. 13, lines 26-29).

As to claims 13, 14, Liess teaches the laser is a solid-state device and is VCSEL type (col. 7, lines 52-53).

As to claim 15, Fig. 1a of Liess teaches the tracking surface is human skin.

As to claim 16, Liess teaches the detector associated with the laser monitors the intensity of the laser.

As to claim 17, Fig. 1a of Liess teaches a lens (10) is positioned between the laser (3) and the tracking surface (15) for refracting the light beam between the tracking surface and the user.

Claim 24 is a method claim corresponding to the above apparatus claim 1, is rejected for the same reasons as stated above since such method "steps" are clearly read on by the corresponding "means".

As to claim 25, Liess teaches the altering data output of the data input device as a function of the determined relative distance (Z direction).

As to claim 26, Fig. 1, 2 of Liess teaches the projected light beam (26) is reflected from a reference surface (12) prior to the detecting (4).

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As to claims 27, 28, Liess teaches the reference surface (12) is mounted on the data input device.

As to claims 29-32, Liess teaches the determining the speed (velocity) of any relative displacement between the tracking surface and the device and altering the data output as a function of the speed and detected the altered characteristic of the light beam is frequency or light intensity (for example, see col. 8, line 57 to col. 9, line 17).

As to claim 38, note the discussion of claim 1 above. Liess also teaches the controller responsive to the detector for operating the device in a tracking mode (cursor movement) or a non-tracking mode (click mode).

As to claims 39, 40, Liess teaches the altered characteristic is a frequency shift in the projected light beam of the laser and is a modulation of power output of the light beam projected by the laser (see col. 8, line 34 to col. 9, line 17 for example).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 12, 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liess.

As to claim 12, Liess does not specifically disclose the laser draws less than about 1.0 mW. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Liess to have the laser draws less than about 1.0 mW as claimed

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so as to provide a low power laser, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

As to claim 33, Liess does not explicitly disclose comparing the relative distance between the device and the tracking surface to a lift-off detection distance. However, Liess teaches measuring a Z direction movement of the human finger and the tracking surface, and the Z direction movement is a movement of a finger or other object towards and away from the laser/diode units (col. 19, lines 27-39, this corresponds to a lift-off detection, no laser currents and pulses are detected by the detector if the finger is far away from the laser/diode units or tracking surface, and laser currents and pluses are detected by the detector if the finger towards the laser/diode units or tracking surface and is within a predetermined distance). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Liess to have a feature of comparing the relative distance between the device and the tracking surface to a predetermined distance as a lift-off detection distance in order to perform click function by measuring the Z direction movement of the human finger and the tracking surface.

As to claim 34, Liess as modified teaches no cursor movement (suspending tracking of relative movement between the device and the tracking surface) when the distance of the human finger or other object is far away from the device, and having cursor control (maintaining tracking) when the distance between the finger and the device is at a closer distance.

As to claims 35-37, Liess discloses the claimed invention except for the lift-off detection distance is about 0.02-0.16 inch, or 0.02-0.12 inch. However, it would have been obvious to one

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having ordinary skill in the art at the time the invention was made to modify Liess to have the lift-off detection distance as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

10. Claims 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liess in view of Kinrot et al (US 6,741,335).

As to claim 18, note the discussion of claim 1 above. Liess differs from claim 18 in that the light beam projected by the laser is not oriented substantially perpendicular to the tracking surface. However, Figs. 12-14 of Kinrot teaches a laser is oriented substantially perpendicular to the tracking surface so the light beam projected by the laser is oriented substantially perpendicular to the tracking surface (col. 7, lines 50-52). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Liess to orient the light beam projected by the laser substantially perpendicular to the tracking surface as taught by Kinrot this enables simple extraction of the direction information and identification of the direction of motion can be achieved.

As to claims 19, 20, Liess teaches the altered characteristic is a frequency shift in the projected light beam of the laser and is a modulation of power output of the light beam projected by the laser (see col. 8, line 34 to col. 9, line 17 for example).

As to claims 21, 22, Fig. 1a, 1b of Liess teaches the laser and the detector (3 and 4) are mounted in a housing and the housing is adapted to contact the tracking surface and orient the laser with respect to the tracking surface.

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As to claim 23, Fig. 1a of Liess teaches the tracking surface is human skin.

Conclusion

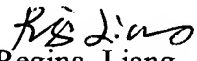
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rink (US 5,382,785) teaches a laser beam delivery path and target proximity sensor.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Regina Liang
Primary Examiner
Art Unit 2674

8/3/06